

Brown Broadcast Services

I N C O R P O R A T E D

Michael D. Brown, President 3740 S.W. Comus St. Portland, Oregon, U.S.A. 97219-7418
SBE Certified Senior Radio Broadcast Engineer office:503-245-6065 fax:245-5773 e-mail:mike@brownbroadcast.com

EXAMINATION OF POSSIBLE ADDITIONAL LP100 STATIONS PORTLAND, OREGON URBANIZED AREA

Prepared by Michael D. Brown – Brown Broadcast Services, Inc.
April 11, 2004 v3.0

SUMMARY:

This study examines the possibility of additional 100-watt Low Power FM stations within the Portland, Oregon Urbanized Area (2000 Census Boundaries) using various scenarios. It shows that the Congressional imposition of 3rd-adjacent channel protection requirements, combined with the unprecedented avalanche of applications in 2003 translator filing window, has utterly gutted future opportunities for expansion of LPFM service in the Portland UA. The results contained herein are believed to be very typical for a medium-large urbanized area.

BACKGROUND:

The FCC created the Low Power FM Radio Service in January 2000. In response to Congressional action mandating 3rd-adjacent channel protections to other facilities, the FCC imposed such requirements in April 2001. This had the effect of eliminating the vast majority (some estimates put it at 80%) of the LPFM opportunities within medium and large urban areas. What remained were largely rural and outer-suburban channels. The Congressional act also mandated a technical study (the “Mitre Report”), which was completed in May 2003. The FCC issued its recommendation to Congress, based on Mitre, in February 2004, recommending that 3rd-adjacent channel protections be dropped once again.

Meanwhile, in March 2003, the FCC opened a filing window for FM translators, which garnered an unexpected deluge of some 13,000 applications – the vast majority of these by applicants who are not local to the area to be served. Most of these translators are still being processed – only a handful are on the air at this time. These applications had the effect of wiping out the vast majority (our estimates are 80% or more) of the medium-to-large urban area LPFM opportunities. Considering the sequence of events, some LPFM proponents feel that LPFM applications should be able to displace some or all translators, particularly those from the unfortunately-timed 2003 filing window. Other options, such as using ACTUAL contours and/or allowing directional antennas to provide real-world protection to translators, could also increase the opportunities for new LPFM stations.

The Portland UA includes 1.58 million persons and 3340 person per square mile (2000 Census), rating it as a fairly typical medium/large urban area. The total Arbitron-defined radio market size (which includes another 300,000 persons) ranks 24th in the U.S.

This firm has prepared a separate study which shows that only 23 persons are predicted to reside within the 3rd-adjacent “interference” areas for 10 potential additional Portland UA LPFMs.¹ Part 73.810 of the FCC Rules provides a mechanism for documenting and mitigating any problems with third-adjacent interference that may arise. If more than 30 households (or 1% of the households in a 1km radius – whichever is lower) remain unresolved, the affected full-power FM station (“FPM”) could initiate a proceeding to force the LPFM off the air completely. In nearly all cases, in our experience, such problems can be resolved by simply purchasing a better receiver for the affected listener.

METHODOLOGY & DATA SUMMARY:

We examined the additional LPFM opportunities for the Portland UA by three methods:

- a. with current spacing requirements, and 2003 translators protected
- b. with 3rd-adjacent spacing requirements dropped, and 2003 translators protected
- d. with 3rd-adjacent spacing requirements dropped, and 2003 translators NOT protected (translators with a CP or license prior to the 2003 Filing Window WERE protected)

We plotted a geographic grid within the Portland UA, at one-minute latitude and longitude intervals. Starting at the northern-most extent of the UA, we scanned west to east and southward within the UA, for available channels. The actual number of stations that would actually be built would likely be less – this is an idealized distribution, with some channels sufficiently far away at opposite ends of the UA to allow them to be duplicated.

¹ ANALYSIS: LPFM 3RD- ADJACENT AND BLANKETING INTERFERENCE ZONES, Vs BLANKETING INTERFERENCE OF EXISTING FULL-POWER FM STATIONS PORTLAND, OREGON URBANIZED AREA
Based on even population distribution within the Urbanized Area. The exact locations of the LPFM stations, of course, cannot be known at this time. The interfering contours were determined using the contour “ratio method”.

	NEW			DISTANCE
	CHAN.	CHANNEL		FROM URBAN
SCENARIO	AVAIL	NUMS	LOCATIONS	CENTER
A - NEW W/CURRENT REQ.	0	0	-- none --	-
B - 3rds DROPPED, W/XLTRS	4	273	FOREST GROVE, OR	22mi
		273	NEWBERG, OR	22mi
		225	PORTLAND*	2.4mi
		225	OREGON CITY*	13.5mi
C - 3rds DROPPED, W/O XLTRS	10	243, 249, 251, 273	FELIDA, WA (N of Vancouver WA)	12.5mi
		273	FOREST GROVE, OR	22mi
		273	NEWBERG, OR	22mi
		251	TIGARD, OR	10mi
		251	GRESHAM, OR	11mi
		225	PORTLAND*	2.4mi
		225	OREGON CITY*	13.5mi

*MX with pending Proposed Rulemaking 02-136 – most likely will be lost

As can be seen, all but one of the LPFM opportunities in this chart are in the suburban communities. Both Channel 225 opportunities are Mutually Exclusive with a pending Proposed Rulemaking that is proceeding towards conclusion, and will almost certainly result in this channel being lost.² Channel 251 might be used just within the city limits of Portland (4 miles from the urban center) by sacrificing the suburban co-channel locations. These results are very typical for what we've found in other similar-sized cities. Liberalization of the protection rules, i.e.: allowing the actual-contour method and directional antennas, might allow some central-urban LPFMs in many cities, while still protecting existing facilities from interference.

There currently is one LPFM pending in the Portland UA, at Hillsboro, OR, on channel 242, some 13.5mi from the Portland City Center. Therefore, there might be up to 11 total LPFMs, without 3rds and without the 2003 translators. The total number of LPFM stations in the Portland UA is thus reduced from 11 to 1 - a **91% loss** - by the current situation.

² FCC Docket 02-136 is expected to add channel 226C3 to Gladstone, Oregon. FCC has issued Orders to Show Cause in connection with this expected decision

CONCLUSIONS:

The congressional imposition of 3rd-adjacent protection requirements for LPFM stations, along with the unfortunate timing of the 2003 Translator Window, has utterly decimated the opportunities for LPFM stations in the areas with the highest demand and need for the service. In Portland, Oregon, the effect has been a loss of 91% of the total LPFM possibilities for the metro area. It also means a loss of 100% of the opportunities for NEW LPFMs, beyond the one currently pending in Hillsboro. And finally, unless Docket 02-136 is somehow derailed, it means a loss of 100% of the LPFM possibilities within the Portland city limits (population: 420,000).

The case of Portland is very typical of what has occurred throughout the country, particularly in and around the medium and large cities.

A range of technical and policy changes can be made to rectify this problem, while causing little or no appreciable interference to now-existing facilities. In the case of a potential elimination of 3rd-adjacent interference requirements, the FCC Rules already in place will ensure that any problems that may arise are promptly rectified, with a potential “death sentence” for any LPFM station that does not comply.